ACTION NO. _____

ITEM P-3

AT A REGULAR MEETING OF THE BOARD OF SUPERVISORS OF ROANOKE COUNTY, VIRGINIA HELD AT THE ROANOKE COUNTY ADMINISTRATION CENTER

MEETING DATE: June 14, 2011

AGENDA ITEM: Work session on amendments to the Roanoke County Zoning Ordinance dealing with Large Wind Energy Systems and Utility Wind Energy Systems

SUBMITTED BY: Philip Thompson
Deputy Director of Planning

John Murphy
Zoning Administrator

APPROVED BY: B. Clayton Goodman III
County Administrator

COUNTY ADMINISTRATOR'S COMMENTS:

SUMMARY OF INFORMATION:

In June 2009, the Planning Commission and Community Development staff identified several areas of the zoning ordinance to review and update. Wind energy was one of the areas identified to research and to develop regulations for which could be incorporated into the zoning ordinance. The Planning Commission has reviewed wind energy issues at numerous work sessions over the past twenty-four (24) months. On January 4, 2011, the Planning Commission finalized draft zoning ordinance amendments dealing with large wind energy systems and utility wind energy systems.

The Planning Commission held a public hearing on draft zoning ordinance amendments for large and utility wind energy systems on March 1, 2011. Approximately sixty (60) citizens spoke at the public hearing. The Planning Commission postponed action on the draft ordinance amendments to review the public comments made during the public hearing. The Planning Commission held three (3) work sessions (March 15, 2011, April 19, 2011, and May 17, 2011), and visited a utility-scale wind farm in Greenbrier, WV as part of its deliberations on the draft ordinance amendments after the public hearing. On May 17, 2011, the Planning Commission recommended approval by a vote of five to zero (5-0) of the draft zoning ordinance amendments. Staff will review with the Board the proposed zoning ordinance amendments dealing with large wind energy systems and utility wind energy systems.

ARTICLE II - DEFINITIONS AND USE TYPES

SEC. 30-29. USE TYPES; GENERALLY.

Definitions:

Wind energy system, large: A wind energy conversion system consisting of one or more wind turbines, towers and associated control or conversion electronics, having a rated nameplate capacity of not more than 999 kilowatts (kW). For purposes of non-residential net metering, Virginia Code Sec. 56-594B limits the electrical generating facility to a capacity of not more than 500 kilowatts.

Wind energy system, utility: A wind energy conversion system consisting of more than one wind turbine, towers and associated control or conversion electronics, having a rated nameplate capacity of one (1) megawatt (MW) or greater.

ARTICLE III – DISTRICT REGULATIONS

SEC. 30-32. AG-3 AGRICULTURAL/RURAL PRESERVE DISTRICT.

Sec. 30-32-2. Permitted Uses.

(B) The following uses are allowed only by special use permit pursuant to section 30-19. An asterisk (*) indicates additional, modified or more stringent standards as listed in article IV, use and design standards, for those specific uses.

5. *Miscellaneous Uses*

Wind Energy System, Large*
Wind Energy System, Utility*

SEC. 30-33. AG-1 AGRICULTURAL/RURAL LOW DENSITY DISTRICT.

Sec. 30-33-2. Permitted Uses.

(B) The following uses are allowed only by special use permit pursuant to section 30-19. An asterisk (*) indicates additional, modified or more stringent standards as listed in article IV, use and design standards, for those specific uses.

6. *Miscellaneous Uses*

Wind Energy System, Large*
Wind Energy System, Utility*

SEC. 30-61. I-1 LOW INTENSITY INDUSTRIAL DISTRICT.

Sec. 30-61-2. Permitted Uses.

(B) The following uses are allowed only by special use permit pursuant to section 30-19. An asterisk (*) indicates additional, modified or more stringent standards as listed in article IV, use and design standards, for those specific uses.

3. *Miscellaneous Uses*

Wind Energy System, Large*
Wind Energy System, Utility*

SEC. 30-62. I-2 HIGH INTENSITY INDUSTRIAL DISTRICT.

Sec. 30-62-2. Permitted Uses.

(B) The following uses are allowed only by special use permit pursuant to section 30-19. An asterisk (*) indicates additional, modified or more stringent standards as listed in article IV, use and design standards, for those specific uses.

4. *Miscellaneous Uses*

Wind Energy System, Large*
Wind Energy System, Utility*

ARTICLE IV – USE AND DESIGN STANDARDS

SEC. 30-87. MISCELLANEOUS USES.

Sec. 30-87-7. Wind Energy System, Large; and Wind Energy System, Utility.

(A) Purpose and Intent: The purpose of this ordinance is to provide regulations for the placement, design, construction, monitoring, operation, modification, and removal of large wind energy systems and utility wind energy systems, while addressing public safety, minimizing impacts on scenic, natural and historic resources of the County and not unreasonably interfering with the development of independent renewable energy sources.

(B) General Standards:

1. Type of Tower: The tower component of any large wind energy system or utility wind energy system shall be one of monopole design that is recommended and certified by the manufacturer.

2. Tower Color: Any large wind energy system tower or utility wind energy system tower shall maintain a white or galvanized steel finish, unless Federal Aviation Administration (FAA) standards require otherwise. The Board of Supervisors may allow a property owner, who is attempting to conform the tower to the surrounding environment and architecture, to paint the tower to reduce its visual obtrusiveness.

3. Setbacks: Large wind energy systems and utility wind energy systems shall be set back a distance of one hundred ten percent (110%) of the height of the wind energy system from all adjoining non-participating property lines, and shall be set back a distance of 2,640 feet from existing dwelling units on non-participating properties. The Board of Supervisors may modify the required setbacks from property lines and existing dwelling units as appropriate based on site specific considerations during the special use permit process. Setbacks shall be measured from the base of the tower of the wind energy system.

4. System Height and Separation: The maximum height of a large wind energy system or utility wind energy system, and the minimum distance required between these systems' towers shall be established during the special use permit process by the Board of Supervisors. System height is defined as the vertical distance measured from average grade at the base of the tower to the highest point of the turbine rotor or tip of the turbine blade when extended to its highest elevation. The system height established through a special use permit shall supersede any other height requirement in the zoning ordinance.

5. Noise: Large wind energy systems and utility wind energy systems shall not exceed 60 decibels (dB(A)), as measured from the closest non-participating property line. Based upon site specific considerations, the Board of Supervisors may modify the decibel level during the special use permit process. An analysis, prepared by an acoustical engineer with a professional engineering license in the Commonwealth of Virginia, shall be provided to demonstrate compliance with this noise standard.

6. Shadowing/Flicker: Large wind energy systems and utility wind energy systems shall be sited in a manner that minimizes shadowing and flicker impacts. The applicant has the burden of proving that this effect does not have significant adverse impacts on neighboring or adjacent uses through the appropriate siting of the facility or through mitigation.

7. Lighting: Large wind energy systems and utility wind energy systems shall not be artificially lighted unless required by the Federal Aviation Administration (FAA) or an appropriate authority.

8. Communication Interference: Large wind energy systems and utility wind energy systems shall be sited in a manner that minimizes the disruption or loss of radio, telephone, television or similar signals or service. If loss or disruption occurs due to the operation of the large wind energy system or utility wind energy system, the applicant shall be required to provide appropriate mitigation measures to ensure that the signal or service is restored within 24 hours.

9. Airports: No large wind energy systems and utility wind energy systems shall be constructed unless the applicant has i.) first completed and submitted a Federal Aviation Administration (FAA) Form 7460-1 to the FAA for the preparation of an aeronautical study and determination of there being no Hazard to Air Navigation prior to filing an application for a special use permit; and ii.) has provided a copy of the completed FAA Form 7460-1, including all attachments and the FAA's case study number, to the Executive Director of the Roanoke Regional Airport Commission at least 30 days prior to filing an application for a special use permit.

10. Zoning Overlay Districts: Large wind energy systems and utility wind energy systems shall comply with any additional requirements established in the airport overlay district in Section 30-72 of this ordinance, and the emergency communications overlay district in Section 30-73.

11. Advertising: Signs, writing, pictures, flags, streamers, or other decorative items that may be construed as advertising are prohibited on wind energy systems, except as follows:

    (a) Manufacturer's or installer's identification on the wind turbine; and

    (b) Appropriate warning signs and placards.

12. Speed Controls: Large wind energy systems and utility wind energy systems shall be equipped with manual (electronic or mechanical) and automatic over speed controls to limit the blade rotation speed to within the design limits of the wind energy system.

13. Land Clearing, Soil Erosion and Habitat Impacts: Clearing of natural vegetation shall be limited to that which is necessary for the construction, operation and maintenance of the wind facility. Adherence to Erosion and Sediment Control regulations is required. The restoration of natural vegetation in areas denuded for construction activities shall be required so long as the restored vegetation does not interfere with the operation of the wind energy system or the maintenance thereof.

14. Monitoring and Maintenance: The applicant shall maintain large wind energy systems and utility wind energy systems in good condition. Such maintenance shall include, but not be limited to, painting, structural integrity of the foundation and support structure and security barrier (if applicable), and maintenance of the buffer areas and landscaping if present. Site access shall be maintained to a level acceptable to the Zoning Administrator in accordance with the County's Fire Access Code. The project owner shall be responsible for the cost of maintaining the large wind energy system and the utility wind energy system and access roads, unless accepted as a public way, and the cost of repairing and damage occurring as a result of operation and construction.

15. Removal of Defective or Abandoned Large Wind Energy Systems or Utility Wind Energy Systems:

    (a) At such time that a large wind energy system or utility wind energy system is scheduled to be abandoned or discontinued, the owner shall notify the Zoning Administrator by certified mail of the proposed date of abandonment or discontinuance of operations.

    (b) Within 180 days of the date of abandonment or discontinuation, the owner shall physically remove the large wind energy system or utility wind energy system. This period may be extended at the request of the owner and at the discretion of the County. Physically remove shall include but not be limited to:

        i. Removal of the wind turbine and tower, all machinery, equipment, equipment shelters, security barriers, and all appurtenant structures from the subject property;

        ii. Proper disposal of all solid and hazardous materials and wastes from the site in accordance with local and state solid waste disposal regulations;

iii. Restoration of the location of the large wind energy system or utility wind energy system to its natural preexisting condition, except that any landscaping or grading may remain in the after-condition if a written request is submitted by the landowner to the County.

iv. Foundations shall be removed to a depth of three (3) feet below ground level or covered to an equivalent depth with fill material. At the time of removal, the site shall be restored to its preexisting condition. If a written request is submitted by the landowner to the County then this requirement may be waived or altered for any other legally authorized use. Restoration shall be verified by the County.

(c) If the large wind energy system or utility wind energy system, or any part thereof, is inoperable for more than 180 days and the owner fails to give such notice to the County, then the large wind energy system or utility wind energy system shall be considered shall be considered abandoned or discontinued. The County shall determine in its decision what proportion of the large wind energy system or utility wind energy system is inoperable for the wind energy system to be considered abandoned.

(d) Decommissioning:

i. If an applicant fails to remove a large wind energy system or utility wind energy system in accordance with this section of the ordinance, the County shall have the authority to enter the subject property and physically remove the facility. The County shall require the applicant, and/or subsequent owners of the property or large wind energy system or utility wind energy system, to provide a form of surety mutually agreeable to the applicant and the County to cover costs of the removal in the event the County must remove the facility.

ii. Prior to obtaining a Certificate of Occupancy and Zoning Compliance from the County and on every tenth (10^{th}) anniversary of the commencement of the commercial operation of the project, the applicant shall provide to the County an estimate of the projected cost of removing the turbines and other equipment from the site as determined by an independent engineer mutually agreeable to the applicant and County ("Gross Decommissioning Cost').

iii. Based on this determination, the applicant shall post and maintain decommissioning funds in an amount equal to Net

Decommissioning Cost, that being Gross Decommissioning Cost minus Salvage value.

iv. Decommissioning Funds may be in the form of a performance bond, surety bond, letter of credit, corporate guarantee or other form of financial assurance as may be mutually acceptable to the applicant and the County.

v. The Decommissioning Funds shall be posted and maintained with a bonding company or Federal or State chartered lending institution mutually agreeable to the applicant and County.

16. Compliance with Other Regulations: Large wind energy systems and utility wind energy systems shall comply with all applicable local, state and federal regulations.

17. Application Requirements:

(a) All potential applicants for a large wind energy system or utility wind energy system shall consult with County staff at least thirty (30) days prior to submitting an application. During this consultation, the applicant shall present information to the County staff regarding the proposed project, its objectives and its potential site and viewshed impacts including potential direct and indirect impacts to a national or state forest, national or state park unit, wildlife management area, or known historic or cultural resource site within five (5) miles of the proposed project. The staff shall provide the potential applicant with information on County policies and standards for large wind energy systems and utility wind energy systems.

(b) In addition to the application requirements contained in Section 30-19-2 of this ordinance, all applications for a large wind energy system or utility wind energy system shall provide the following at the time of the application:

i. A detailed concept plan with project location maps that show the location and clearing limits of all components of the large wind energy system or utility wind energy system. Project components include, but are not limited to: roads, power lines and other project infrastructure; collector, distribution and transmission lines; temporary or permanent storage lay down areas; substations; and any structures associated with the project.

ii. A description and analysis of existing site conditions, including information on topography, archaeological and historic resources, natural water courses, floodplains, unique natural features, tree cover areas, etc.

iii. Accurate, to scale, photographic simulations showing the relationship of the large wind energy system or utility wind energy system and its associated facilities and development (i.e. substation, appurtenances, disturbed areas, etc.) to its surroundings. The photographic simulations shall show such views of wind energy structures from locations such as property lines and roadways, as deemed necessary by the County in order to assess the visual impact of the large wind energy system or utility wind energy system. The total number of simulations and the perspectives from which they are prepared shall be established by the County staff at the pre-submission consultation required in section 17 (a) above. County staff will work with all national or state forest, national park or state park unit, wildlife management area, or known historic or cultural resource site within five (5) miles of the proposed project to establish which possible observation points and visual simulations will be necessary to represent the most sensitive views from which the project will be visible.

iv. Sound study providing an assessment of pre-construction and post-construction conditions. Additionally, the applicant shall provide documentation regarding noise complaint response procedures and protocol for post-construction monitoring.

v. A phasing schedule for the construction of the large wind energy system or utility wind energy system, including staging areas, off-site storage facilities and transportation routes.

vi. Written verification that all required submittals to the Federal Aviation Administration (FAA) have been submitted, including a copy of the completed FAA Form 7460-1 and all attachments. A copy of the FAA's written determination of whether the proposed large wind energy system or utility wind energy system would create a Hazard to Air Navigation shall be submitted.

vii. A summary of the wind data gathered for the proposed large wind energy system or utility wind energy system. The dates and periods of the collection of the wind data shall also be submitted. The applicant shall provide access to the wind data for County staff or its consultant(s), as needed.

viii. The County shall provide written notification to the office of a national or state forest, national or state park unit, wildlife management area, or known historic or cultural resource site, if a

proposed wind energy system is within five (5) miles of the boundary of said entity.

ix. Information (including modeling) regarding the impacts from shadowing and shadow flicker for the proposed large wind energy system or utility wind energy system during different times of the year (seasonal) and different times of the day.

x. Additional information as deemed necessary by County staff.

(c) The applicant shall be responsible for all fees associated with the filing of the application including the cost of any independent analysis deemed necessary by the county to verify the information submitted for the large wind energy system or utility wind energy system.

(d) The applicant shall conduct public information meeting(s) to discuss its development plans and obtain community feedback.